the Anatomical and Surgical Club, to which it has been formally donated by the widow of Dr. Groux.

Dr. Groux is supposed to have possessed the power to arrest the action of the heart at will without producing any other disturbance of his usual condition. On taking two or three quick inspirations, by an effort the cardiac movements were apparently stopped for about twenty seconds, and he never deemed it prudent to prolong the effort beyond that time. The committee of the New York Pathological Society "were not able to see that he did anything else than to stop the pulse at the left wrist, the circulation continuing everywhere else," and they attributed this power to stop the pulse at the left wrist to the unusual mobility of the clavicle, by which the subclavian artery was compressed at the top of the chest.

Appended to the paper is a bibliography of the malformation.

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The Eustachian Tube.

The action of the palatal muscles on the Eustachian tube is the subject of an interesting lecture delivered by Professor LUCAE, to the Physiological Society of Berlin, and published in a recent number of Virchow's *Archiv.* A short time ago, in the same journal, Lucae recorded some observations on an individual whose nasal cartilages had been destroyed by lupus, which observation went far to decide the much-disputed question of whether the Eustachian tube is permanently open or closed. They confirm the statement of many previous observers that the tube cannot be regarded as permanently open. It is rather loosely closed, and opens in different individuals with different degrees of readiness on the occurrence of variations in the pressure of air in the pharynx and tympanic cavity respectively. During the act of swallowing, the tube is, as Michel maintained, closed, and it is also closed during phonation. The observations seemed to show that the view that the tensor opens the tube during the act of swallowing is erroneous, although the muscle probably assists in opening the tube at the end of the act of deglutition, as soon as the action of the levator is over, and the soft palate again falls. During deglutition, phonation, aspiration, and forced breathing, the raised palate presses together the lips of the opening of the Eustachian tube, and thus air is forced towards the middle ear.

In his recent lecture Lucae has given the results of his investigation of two other cases in which the nasal cartilages were destroyed. The changes to be observed in the mouths of the Eustachian tubes during movements of the soft palate were exactly the same as those seen in the former case. When the palate was raised the lips of the tube were pressed together, and were separated when the palate fell. No movement could be perceived in the anterior lip, but the cartilaginous rim was each time moved from the anterior lip towards the posterior wall of the pharynx, whilst the floor of the tube was pushed into the triangular space thus formed. During this action, if there was a drop of fluid in the mouth of the tube, it was moved towards the middle line of the body, especially during the powerful elevation of the palate which occurs during the act of swallowing. The defect of the alæ nasi was in one case so great as to permit the introduction of a small laryngoscopic mirror, by which a direct view of the mouth of the tube was obtained; and it was seen that during rest and ordinary respiration there was only a small furrow, which, when the soft palate was raised in deglutition and phonation, became almost obliterated. On the ground of observations on the pressure on the middle ear during deglutition, Lucae thinks it highly probable that external closure of the tube is associated with an internal dilatation, either by simple mechanical inflation or simultaneous action of the tensor palati *seu* dilator tubæ, but no direct proof of this has yet been given. The closure of the tube, when the palate is raised, is no doubt the reason why, when fluid is injected into the nasal chamber—by which a reflex water-tight closure of the posterior nares by the palate is produced—no liquid gets into the Eustachian tube, unless the patient swallows while the douche is being employed. But why, it may be asked, should fluids pass into the tube during the act of swallowing if the tube is closed? It must be remembered that deglutition is a complex action. Physiological treatises are silent on the question of the exact time at which the palate is raised. Lucae has endeavoured to answer the question by a method devised by Czermak for the study of the movements of the palate during phonation. A curved wire was so placed in the nasal cavity that the curved portion lay upon the soft palate, the movements of which were shown by the projecting part of the wire, to which a long straw was attached. It was found that, as Gentzen observed in a case in which the palate was exposed by the removal of an orbital tumour, the palate was raised progressively in the passage through the series of vowels—*a*, *e*, *i*, *o*, *u*. At the commencement of deglutition the palate was raised as high as in the pronunciation of *u*, and the fall of the palate, and therefore the opening of the mouth of the Eustachian tube, coincided with the contraction of the constrictors of the pharynx and the last portion of the act of deglutition proper. It does not therefore succeed deglutition, but occurs during the last portion of the act, and hence the passage of liquids at this time into the tube from the nose. These observations have led to certain contrivances for maintaining the closure of tube during the employment of the nasal douche, so as to avoid the risk of the awkward accident of the passage of liquid into the middle ear. Fraenkel, for instance, recommends that the patient should be made to pronounce the vowel *u*, while Störck advises water to be kept in the mouth ready to be swallowed without being actually swallowed, which leads to elevations of the soft palate only. The observations show also that the end of the act of deglutition is far more favourable than its commencement for the forcible inflation of the Eustachian tube and tympanic cavity by the method of Politzer.—*Lancet*, Jan. 4, 1879.

MATERIA MEDICA AND THERAPEUTICS.

On the Biliary Secretion of the Dog with reference to the Action of Cholagogues.

Dr. William Rutherford, Professor of the Institutes of Medicine in the University of Edinburgh, has presented a report on this subject to the Scientific Grants Committee of the British Medical Association (*Brit. Med. Journ.*, Feb. 8, 1879), of which the following is the summary of results obtained.

1. In a curarized dog that has fasted eighteen hours, the secretion of bile is tolerably uniform during the first four or five hours after the commencement of the experiment, but falls slightly as a longer period elapses. Its composition remains constant.

2. Croton-oil is a hepatic stimulant of very feeble power. The high place assigned to it by Röhrig was probably the result of his imperfect method of experiment.

3. Podophyllin is a very powerful stimulant of the liver. During the increased secretion of bile, the percentage amount of the special bile solids is not diminished. If the dose be too large, the secretion of bile is not increased. It is a powerful intestinal irritant.